Message

**From**: Labiosa, Rochelle [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DED3654216C9461D95CD5A3CEEC507EF-LABIOSA, ROCHELLE]
**Sent**: 11/17/2015 2:45:44 AM
**To**: Cora, Lori [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c8850941bf1540c796559dce75c2f5ee-Cora, Lori]; Fullagar, Jill [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ba061353c314b40a14a8be1ee382ae3-Gable, Jill]
**CC**: Jacobson, Martin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8fafee20580b4afaa071e71ddcc088eb-Jacobson, M]
**Subject**: RE: Brian, Tanya R10 request for OA help

Thanks Lori – sorry for my previous email – finally got into my work email and saw that I had received about half of the emails so I was not following the conversation at all. Would be good to know how close the sites are to the three mile point. Nina interpolates the data in the study to include the whole coast (so her figures demarcate all of the waters inshore of the closest ones as undersaturated). Looking at it more specifically would take looking at currents and upwelling patterns.

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US EPA, Region 10
1200 Sixth Avenue, Suite 900, MC: OWW-191
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Ph: 206.553.1172
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**From:** Cora, Lori
**Sent:** Monday, November 16, 2015 4:34 PM
**To:** 'Rochelle Labiosa[ Personal Privacy / Ex. 6 ]Fullagar, Jill <Fullagar.Jill@epa.gov>
**Cc:** Jacobson, Martin <Jacobson.Martin@epa.gov>; Labiosa, Rochelle <labiosa.rochelle@epa.gov>
**Subject:** RE: Brian, Tanya R10 request for OA help

# Attorney Client / Ex. 5

**Lori Houck Cora** | Assistant Regional Counsel
**U.S. Environmental Protection Agency | Region 10**
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**From:** Rochelle Labiosa [mailto:rlabiosa@gmail.com]
**Sent:** Monday, November 16, 2015 4:27 PM
**To:** Fullagar, Jill <Fullagar.Jill@epa.gov>
**Cc:** Jacobson, Martin <Jacobson.Martin@epa.gov>; Cora, Lori <Cora.Lori@epa.gov>; Labiosa, Rochelle <labiosa.rochelle@epa.gov>
**Subject:** Re: Brian, Tanya R10 request for OA help

Hi Jill and Marty,

I think the bigger possible issue is the spot you measure from, which could be the shelf break not the land mass- hopefully that makes sense. I can give you a call if needed. So if it could be the shelfbreak, I would look at the 3nm on the NOAA charts which should be the right location from the shelfbreak, unless Lori says it is the land mass not the shelfbreak for our purposes. Cheryl may have looked at that too but could check with her.

Rochelle

Sent from my iPhone

On Nov 16, 2015, at 4:16 PM, Fullagar, Jill <Fullagar.Jill@epa.gov> wrote:

> You are super fast!! Thanks Marty!
>
> ---
>
> Jill Fullagar, Impaired Waters Coordinator
> Watershed Unit, Office of Water and Watersheds
> US EPA, Region 10
> 1200 Sixth Avenue, Suite 900 (OWW-192)
> Seattle, WA 98101-3140
> (206) 553-2582, (206) 553-1280 (fax)
> fullagar.jill@epa.gov
>
> **From:** Jacobson, Martin
> **Sent:** Monday, November 16, 2015 4:13 PM
> **To:** Fullagar, Jill <Fullagar.Jill@epa.gov>; Cora, Lori <Cora.Lori@epa.gov>
> **Cc:** Labiosa, Rochelle <labiosa.rochelle@epa.gov>
> **Subject:** RE: Brian, Tanya R10 request for OA help
>
> Hey Jill,
>
> I looked at OR and WA stations in respect to nautical miles (1.15 nautical mile = 1 mile). There are none within 3 nautical miles. I looked at the CA stations and it appears that 4 lie within (or pretty close) 3 miles from the coast. These are stations 57, 65, 87, and 95.
>
> Marty
>
> **From:** Fullagar, Jill
> **Sent:** Monday, November 16, 2015 3:59 PM
> **To:** Cora, Lori; Jacobson, Martin
> **Cc:** Labiosa, Rochelle
> **Subject:** FW: Brian, Tanya R10 request for OA help
>
> Hi Lori and Marty,
>
> Rochelle had some questions about the definition of the coast relative to the continental shelf and if the data points are within 3 nautical miles. Marty—could you use the link below to double check? Lori—could you let us know if you have any legal input.
>
> As a side note—Rochelle—Cheryl said she thought the ones within 3 miles are in CA. Marty—can you confirm if there are any for CA? If so, we should probably give HQ and R9 a heads up about that. Thanks all. I'm about to take off and will be out tomorrow, but back on Wed. Thanks.

jill

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Jill Fullagar, Impaired Waters Coordinator
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**From:** Rochelle Labios **Personal Privacy / Ex. 6**
**Sent:** Monday, November 16, 2015 3:42 PM
**To:** Fullagar, Jill <Fullagar.Jill@epa.gov>
**Subject:** Re: Brian, Tanya R10 request for OA help

Just left you a VM problem is the continental shelf and whether that is the coastline - where three nm starts. Need a lawyer to define.

Does Marty have NOAA nautical charts that apply? They have the 3nm lines. Would still confirm with a lawyer.

See e.g. http://www.charts.noaa.gov/OnLineViewer/18400.shtml

Sent from my iPhone

On Nov 16, 2015, at 3:10 PM, Fullagar, Jill <Fullagar.Jill@epa.gov> wrote:

> Hi Rochelle,
>
> That's weird about the email. It just autofilled when I started typing your name. Hmm, it looks like if I start with Rochelle, it autofills the gmail, if I start with Labiosa, it puts in the EPA one. Good to know.
>
> My impression from talking with Nina was that they sampled "right off" shore, but we know how broadly that is interpreted. Marty said it looks like the closest points using the lat/longs were 6 or 7 miles out. I will just double check with Nina, but if that's the case, then that might be that. Thanks.
>
> jill
>
> ---
>
> Jill Fullagar, Impaired Waters Coordinator
> Watershed Unit, Office of Water and Watersheds
> US EPA, Region 10
> 1200 Sixth Avenue, Suite 900 (OWW-192)
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> fullagar.jill@epa.gov

**From:** Rochelle Labiosa [Personal Privacy / Ex. 6]
**Sent:** Monday, November 16, 2015 3:06 PM
**To:** Fullagar, Jill <Fullagar.Jill@epa.gov>
**Subject:** Re: Brian, Tanya R10 request for OA help

Hi Jill- this was sent to my gmail, but I appreciate it bc wifi is not working at my conference. In my previous email, there were two or three stations that Nina identified as within 200 m of shore. I don't remember which ones and therefore which lat longs correspond- worth following up, since I did not check them myself. The interpolation is somewhat deceiving in the figures so definitively need to check individual points. However I made a mistake in my last email- in looking at it quickly, she had said the samples where collected at the 200 m isobath, not 200 m offshore like I first thought- I thought she essentially collected them close to shore, but that was not the case (a little further offshore). Would need to look at lat lons but I can see why they may not be in state waters.

Sent from my iPhone

On Nov 16, 2015, at 2:43 PM, Fullagar, Jill <Fullagar.Jill@epa.gov> wrote:

> Hi Brian,
>
> I'll respond more fully to your email later. For now, I wanted to let you know Marty Jacobson, my ORISE intern, checked all the lat/longs using GIS and did not believe any were within 3 miles of the OR or WA coast, which I believe is the limit of state waters. This is contrary to what the author told me, and I believe the impression Rochelle had as well, so I'll follow up with the author to confirm. Stay tuned.
>
> jill
>
> ---
>
> Jill Fullagar, Impaired Waters Coordinator
> Watershed Unit, Office of Water and Watersheds
> US EPA, Region 10
> 1200 Sixth Avenue, Suite 900 (OWW-192)
> Seattle, WA 98101-3140
> (206) 553-2582, (206) 553-1280 (fax)
> fullagar.jill@epa.gov
>
> **From:** Rappoli, Brian
> **Sent:** Monday, November 16, 2015 8:59 AM
> **To:** Fullagar, Jill <Fullagar.Jill@epa.gov>; Furtak, Sarah <Furtak.Sarah@epa.gov>
> **Cc:** Code, Tanya <Code.Tanya@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
> **Subject:** FW: Brian, Tanya R10 request for OA help
>
> Jill and Sarah

Here are my initial thoughts on the papers submitted by CBD:

*Shell Condition and Survival of Puget Sound Pteropods Are Impaired by Ocean Acidification Conditions* (Busch et al, 2014)

**Deliberative Process / Ex. 5**

*The Pacific oyster, Crassostrea gigas, shows negative correlation to naturally elevated carbon dioxide levels* (Hales et al, 2012)

**Deliberative Process / Ex. 5**

*Persistent carry-over effects of planktonic exposure to ocean acidification in the Olympia oyster* (Hettinger et al, 2012)

**Deliberative Process / Ex. 5**

*Potential impacts of ocean acidification on the Puget Sound food web* (Busch et al, 2013)

**Deliberative Process / Ex. 5**

*Ocean Acidification Has Multiple Modes of Action on Bivalve Larvae* (Waldbusser et al, 2015)

**Deliberative Process / Ex. 5**

*Limacina helicina shell dissolution as an indicator of declining habitat suitability* (Bednarsek et al, 2014)

My questions is whether the data is from state waters. Do you have GIS software that can determine if the sites are in state waters? Here is the supplementary data for sampling locations.

**Table S1**. The position and depth of samples containing *Limacina helicina helicina* f. *pacifica* collected with a 333 µm mesh vertical Bongo net over the vertically integrated depth of 100 m at the investigated stations, along with depth-integrated abundance (ind $m^{-2}$), shell size range (mm), life stage in the fraction of the undersaturated ($\Omega<1$) water. For dissolution analyses, samples size (N) and the proportion of severe (Type II and Type III) dissolution are provided.

| station No. | lat | long | sampling depth (m) | fraction of water ($\Omega<1$) | depth-integrated abundance (ind $m^{-2}$) | shell size range (mm) | life stage J=juvenile, SA=subadult | sample size (N) |
|---|---|---|---|---|---|---|---|---|

| | | | (upper 100 m) | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 48.377 | 124.972 | 0-100 | 83.0 | 19 | 0.5-2 | J, SA | 7 |
| 13 | 47.113 | -124.637 | 0-100 | 77.6 | 68 | 0.5-2 | J, SA | 5 |
| 14 | 47.113 | -124.350 | 0-100 | 40.0 | 86 | 0.5-2 | J, SA | 9 |
| 15 | 46.126 | -124.095 | 0-100 | 83.3 | 102 | 0.5-2 | J, SA | 3 |
| 21 | 46.125 | -125.732 | 0-100 | 0.0 | 104 | 1-2.5 | J, SA | 4 |
| 28 | 44.646 | -124.289 | 0-100 | 82.9 | 77 | 0.5-2 | J, SA | 12 |
| 29 | 44.633 | -124.400 | 0-100 | 65.1 | 122 | 0.5-2 | J, SA | 4 |
| 31 | 44.633 | -124.833 | 0-100 | 40.1 | 252 | 1-2.5 | J, SA | 4 |
| 37 | 44.200 | -124.975 | 0-100 | 31.0 | 134 | 1-2.5 | J, SA | 3 |
| 57 | 40.246 | -124.384 | 0-100 | 15.2 | 389 | 0.5-2 | J, SA | 7 |
| 61 | 40.103 | -124.711 | 0-100 | 12.0 | 445 | 0.5-2 | J | 12 |
| 65 | 38.300 | -123.100 | 0-100 | 52.6 | 14267 | 0.5-1 | J | 5 |
| 69 | 37.762 | -123.274 | 0-100 | 13.0 | 700 | 0.5-2 | J, SA | 4 |
| 73 | 36.668 | 125.646 | 0-100 | 0.0 | 6 | 0.5-2 | J, SA | 4 |
| 75 | 36.524 | -122.434 | 0-100 | 30.0 | 15 | 0.5-1 | J | 4 |
| 87 | 34.433 | 120.432 | 0-100 | 0.0 | 1 | 0.5-1 | J | 4 |
| 95 | 33.488 | 117.755 | 0-100 | 0.0 | 15 | 0.5-2 | J, SA | 4 |

If some of the data is from state waters, then we should discuss.

Hope this helps,
Brian

**From:** Furtak, Sarah
**Sent:** Tuesday, November 10, 2015 5:15 PM
**To:** Rappoli, Brian <Rappoli.Brian@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>
**Subject:** Brian, Tanya R10 request for OA help

Brian and Tanya,
Jill offered for you to contact Jill directly with any questions if you'd prefer that approach. Alternatively, I'm happy to aggregate questions on the articles that you send to me. Either way, I will plan to check in with you on Nov. 17.

Sarah

**From:** Furtak, Sarah
**Sent:** Tuesday, November 10, 2015 2:39 PM
**To:** Rappoli, Brian <Rappoli.Brian@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>
**Cc:** Chemerys, Ruth <Chemerys.Ruth@epa.gov>
**Subject:** Brian, Tanya R10 request for OA help

Hi Brian and Tanya,
Per our discussion, attached are the articles from Jill in Region 10. I understand these were cited by Ctr. For Biological Diversity (CBD), and Jill has reached out to us – Ruth, Chris, Jamie, myself (along with Jill's WQS and ORD counterparts) for input as to whether the articles show an impairment of either of the state narrative criteria immediately below. I understand the first and second articles are those that Jill feels are the highest priority for our review.

My target for providing aggregate input to Jill is Nov. 20. I will plan to check in with you Nov. 17 on progress of your review. Does Nov. 17 sound like a reasonable target for your review?

If you have any specific questions on the articles, please plan to capture those for Jill.

Oregon Statewide Narrative Criteria (OAR 340-41-007). The relevant narrative criteria are as follows:

"(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

(11) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed;

WA Aquatic Life Narrative **WAC 173-201A-260**

**Natural conditions and other water quality criteria and applications.**

(2) **Toxics and aesthetics criteria.** The following narrative criteria apply to all existing and designated uses for fresh and marine water:

(a) Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health (see WAC 173-201A-240, toxic substances, and 173-201A-250, radioactive substances).

Thanks!

Sarah
**Sarah Furtak**
U.S. Environmental Protection Agency
Office of Wetlands, Oceans, and Watersheds
Assessment and Watershed Protection Division
Watershed Branch
William Jefferson Clinton Federal Building West, Room 7330-A, Mail Code 4503-T
1301 Constitution Avenue, NW
Washington, DC 20004
Phone: (202) 566-1167

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**From:** Chemerys, Ruth
**Sent:** Tuesday, November 03, 2015 8:26 AM
**To:** Furtak, Sarah <Furtak.Sarah@epa.gov>
**Subject:** FW: Could use some OA help

Sarah-

Keeping you in the loop as well….I won't have time to review before I leave for my trip tomorrow, but would have time next week…

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**From:** Fullagar, Jill
**Sent:** Monday, November 02, 2015 4:29 PM
**To:** Brown, Cheryl A. <Brown.Cheryl@epa.gov>; Labiosa, Rochelle <labiosa.rochelle@epa.gov>; Chemerys, Ruth <Chemerys.Ruth@epa.gov>; Fowler, Jamie <Fowler.Jamie@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>
**Subject:** Could use some OA help

Hi all,

The time has come when I could use a second opinion on some OA articles. If you could take a look and let me know if you think any of the above show an impairment of either of the state narrative criteria listed below, I would really appreciate it. I think the most potentially relevant articles are the first two attached above, so if you have limited time, just

take a look at those two, if you can. Thank you so much, and let me know if you have questions.

jill

Oregon Statewide Narrative Criteria (OAR 340-41-007). The relevant narrative criteria are as follows:

"(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

(11) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed;

WA Aquatic Life Narrative **WAC 173-201A-260**

**Natural conditions and other water quality criteria and applications.**

(2) **Toxics and aesthetics criteria.** The following narrative criteria apply to all existing and designated uses for fresh and marine water:

(a) Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health (see WAC 173-201A-240, toxic substances, and 173-201A-250, radioactive substances).

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